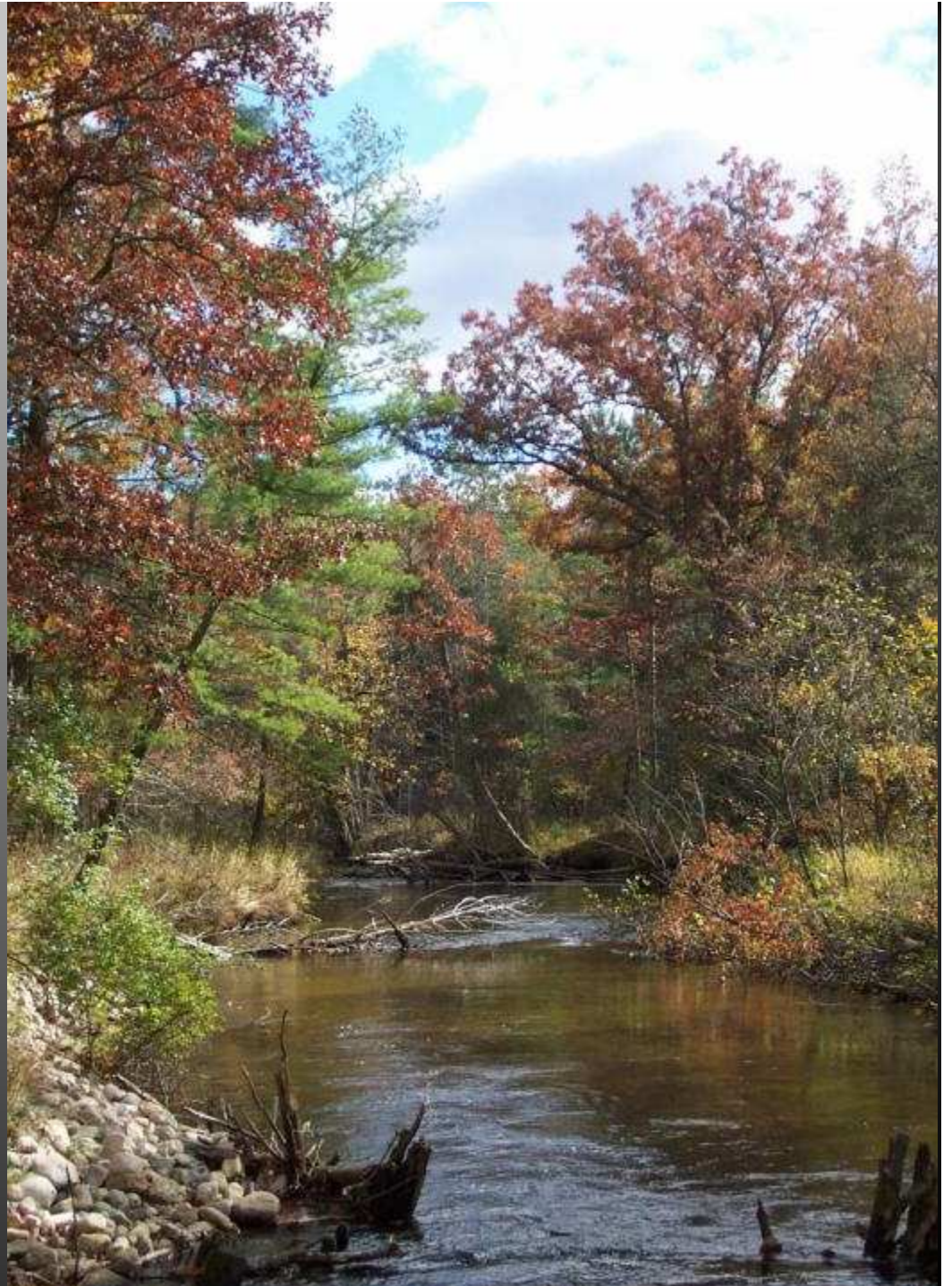


# View from the Field - Connecting Streams in Northern MI

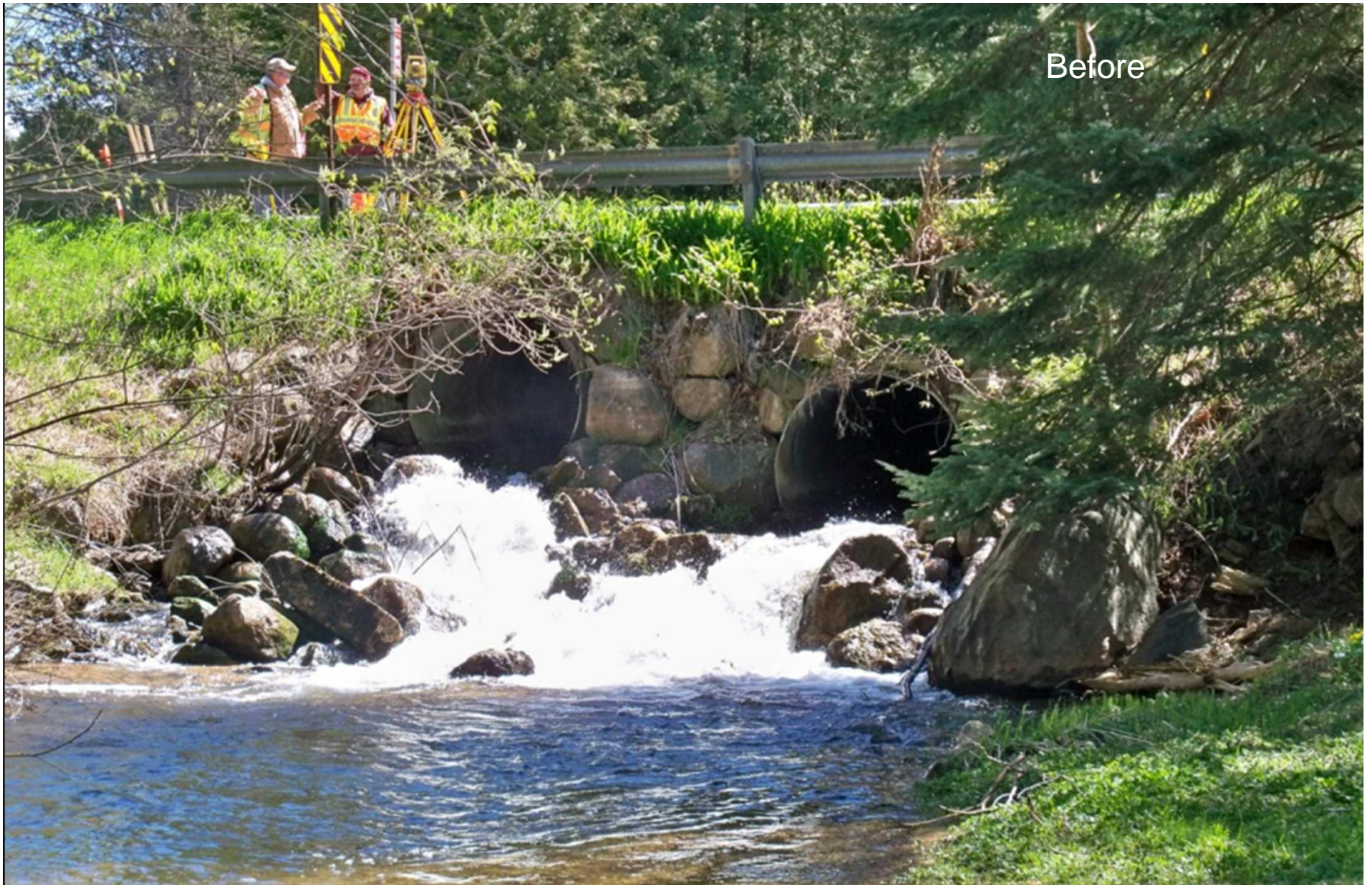
**Amy Beyer**  
Director



Conservation Resource Alliance







**In between the model, the  
money and the ribbon cutting**

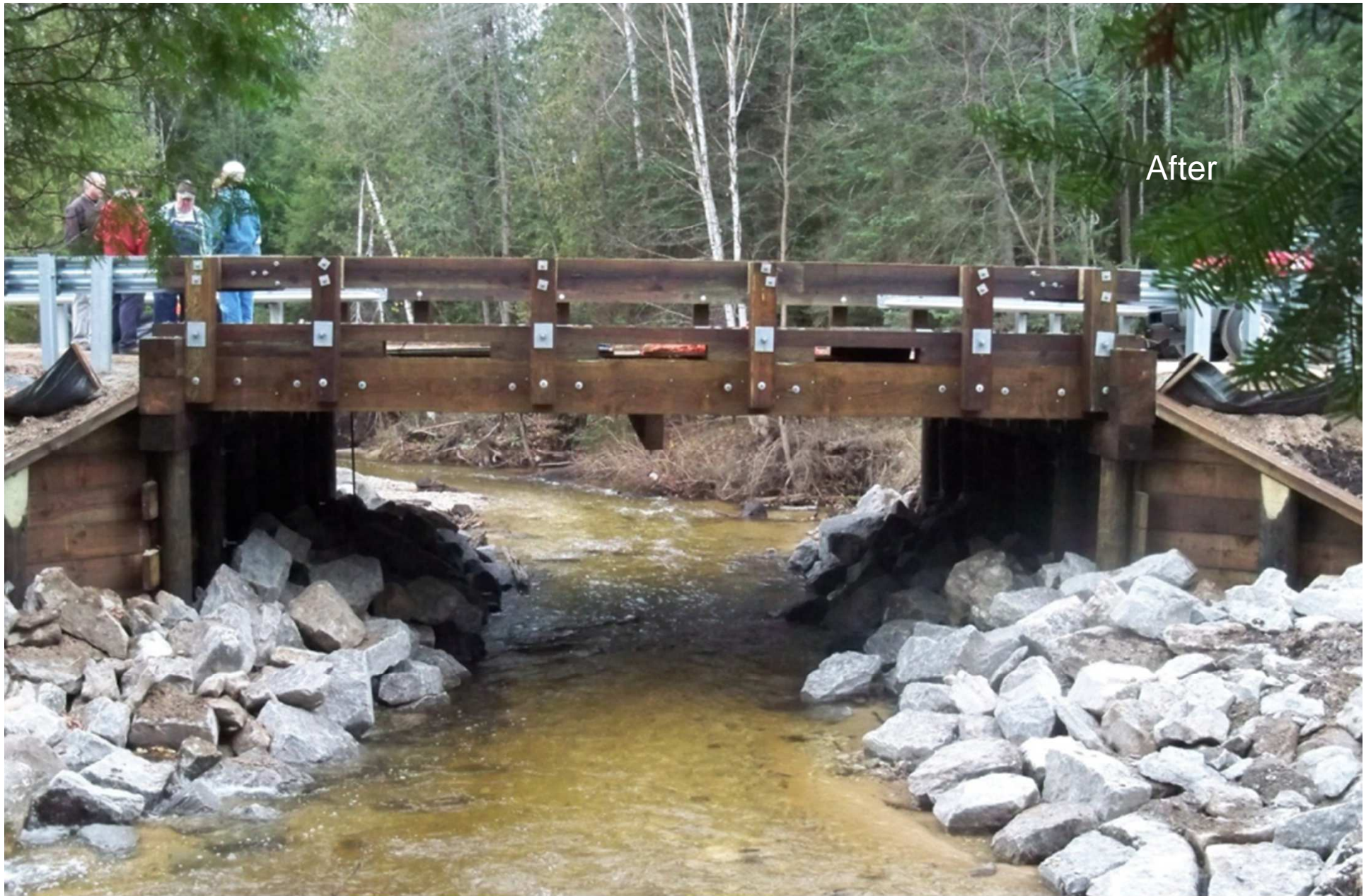




During

**What's the Process?**  
**How Are Projects Selected?**





After

**Overcoming Challenges**



“Up North” Michigan  
10,000 Stream Miles  
8 Million acres



# The process....

- Resource inventories  
[www.northernmichiganstreams.org](http://www.northernmichiganstreams.org)
- Technical review/science based approach
- Watershed context – upper versus lower, coldwater, other barriers, etc.
- Priority list, regional context
- Getting to shovel ready
- Bundling sites





A map of Michigan's Upper Great Lakes watershed, showing the extensive network of rivers and streams that drain into the five Great Lakes. The map is rendered in shades of green and blue, with the land areas in green and the water bodies in blue. The watershed boundary is clearly defined, encompassing the entire drainage area of the Upper Great Lakes.

# **River Care**

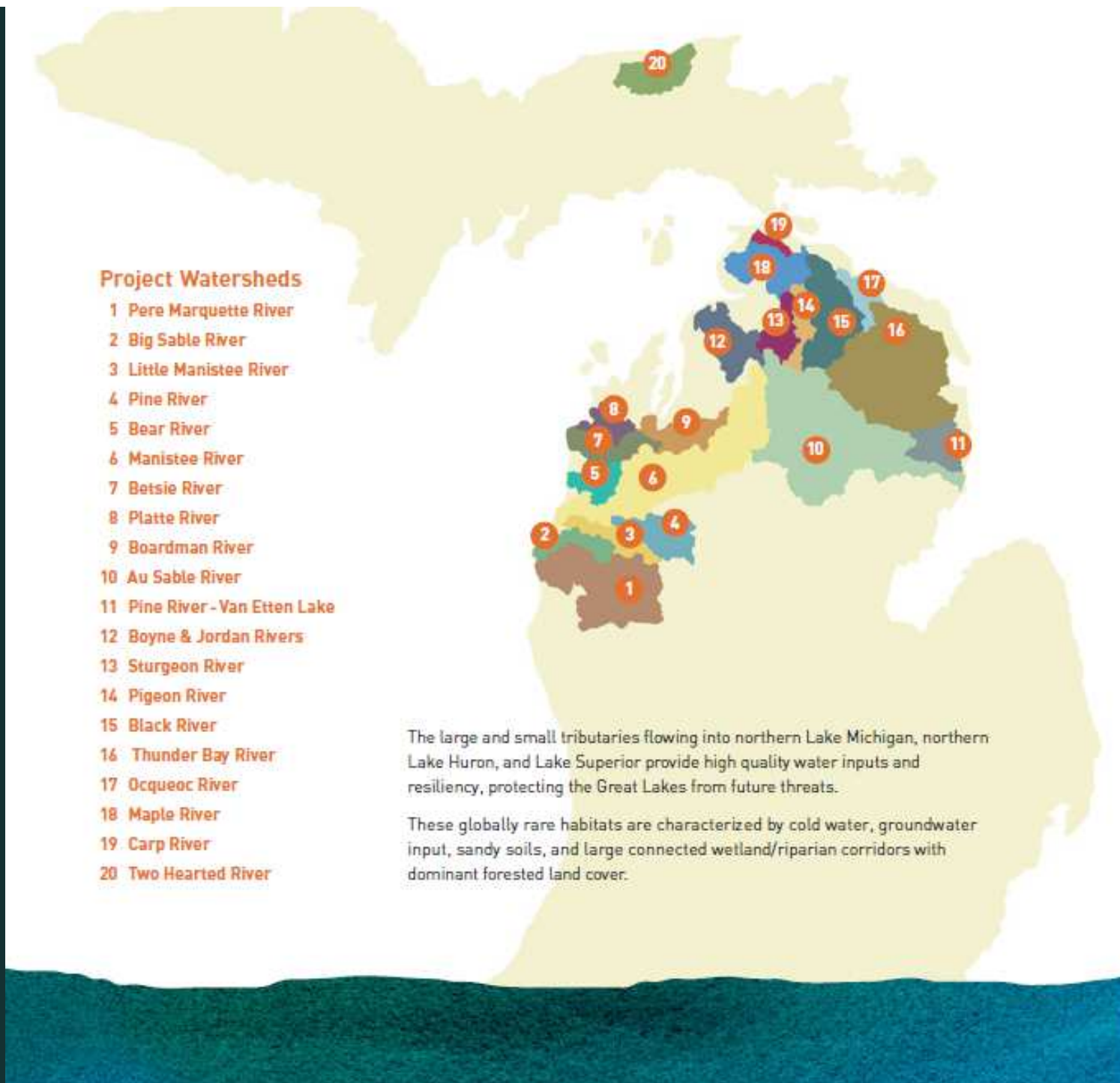
**Restoring Stream Connectivity  
and Habitat in Michigan's  
Upper Great Lakes**

### Project Watersheds

- 1 Pere Marquette River
- 2 Big Sable River
- 3 Little Manistee River
- 4 Pine River
- 5 Bear River
- 6 Manistee River
- 7 Betsie River
- 8 Platte River
- 9 Boardman River
- 10 Au Sable River
- 11 Pine River - Van Etten Lake
- 12 Boyne & Jordan Rivers
- 13 Sturgeon River
- 14 Pigeon River
- 15 Black River
- 16 Thunder Bay River
- 17 Ocqueoc River
- 18 Maple River
- 19 Carp River
- 20 Two Hearted River

The large and small tributaries flowing into northern Lake Michigan, northern Lake Huron, and Lake Superior provide high quality water inputs and resiliency, protecting the Great Lakes from future threats.

These globally rare habitats are characterized by cold water, groundwater input, sandy soils, and large connected wetland/riparian corridors with dominant forested land cover.





# Project Selection



Before



After





# Restoring Ecology

Before



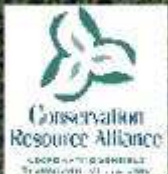




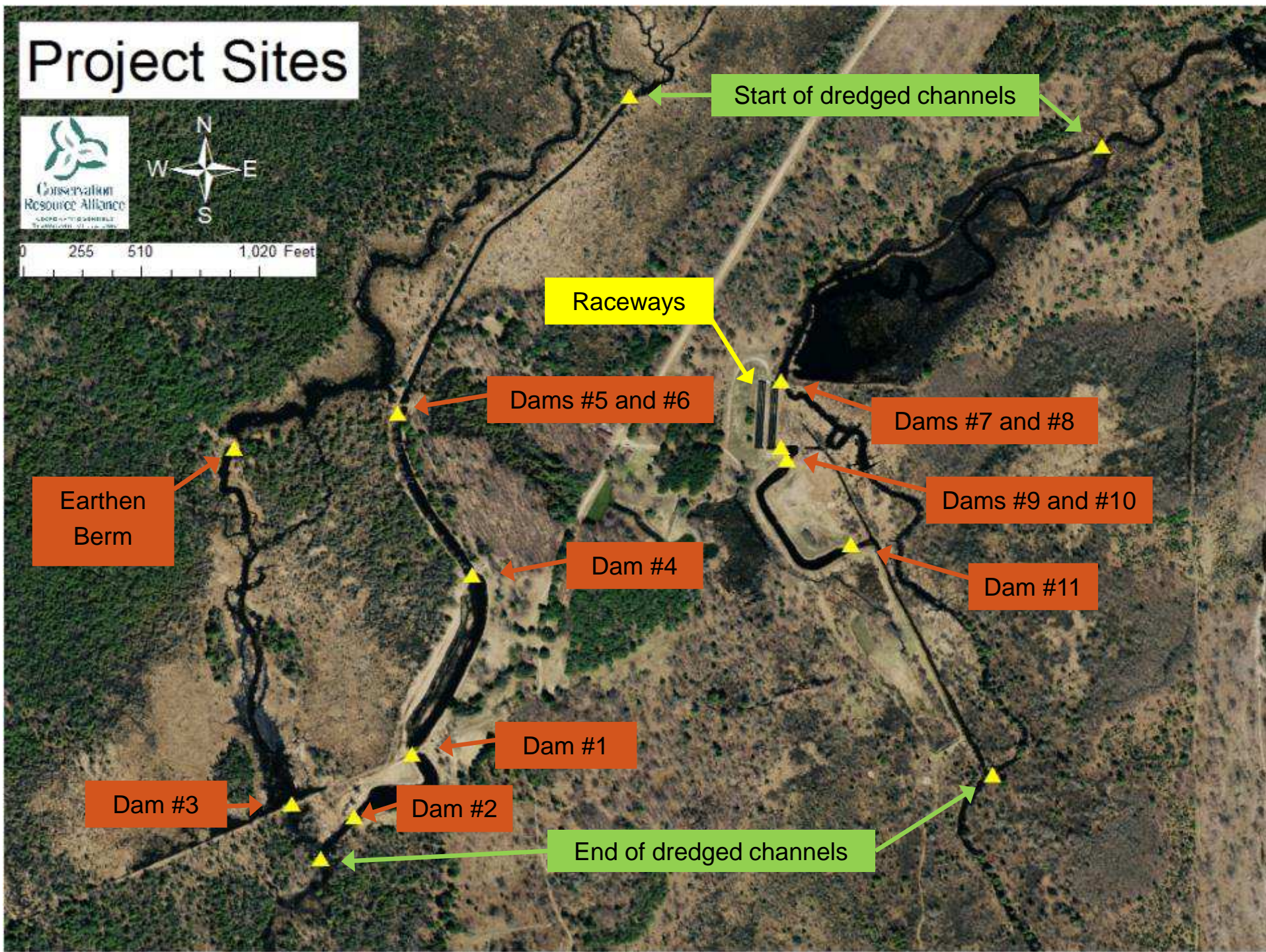
After



# Project Sites



0 255 510 1,020 Feet



Start of dredged channels

Raceways

Dams #5 and #6

Dams #7 and #8

Earthen  
Berm

Dams #9 and #10

Dam #4

Dam #11

Dam #1

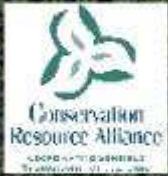
Dam #3

Dam #2

End of dredged channels



# Implementation



0 255 510 1,020 Feet

Removed earthen berm by hand

Earthen Berm

Dams #5 and #6

Filled in raceways with onsite materials

Raceways

Blocked dredged channels with onsite materials

Altered dams to maintain permanent wetland and pond habitat

Dam

Dams #9 and #10

Dam #4

Dam #11

Removed 7 dams (& 6 beaver dams) after gradual drawdown

Installed instream woody debris using on site materials. (150 structures, year 2)

Dam #1

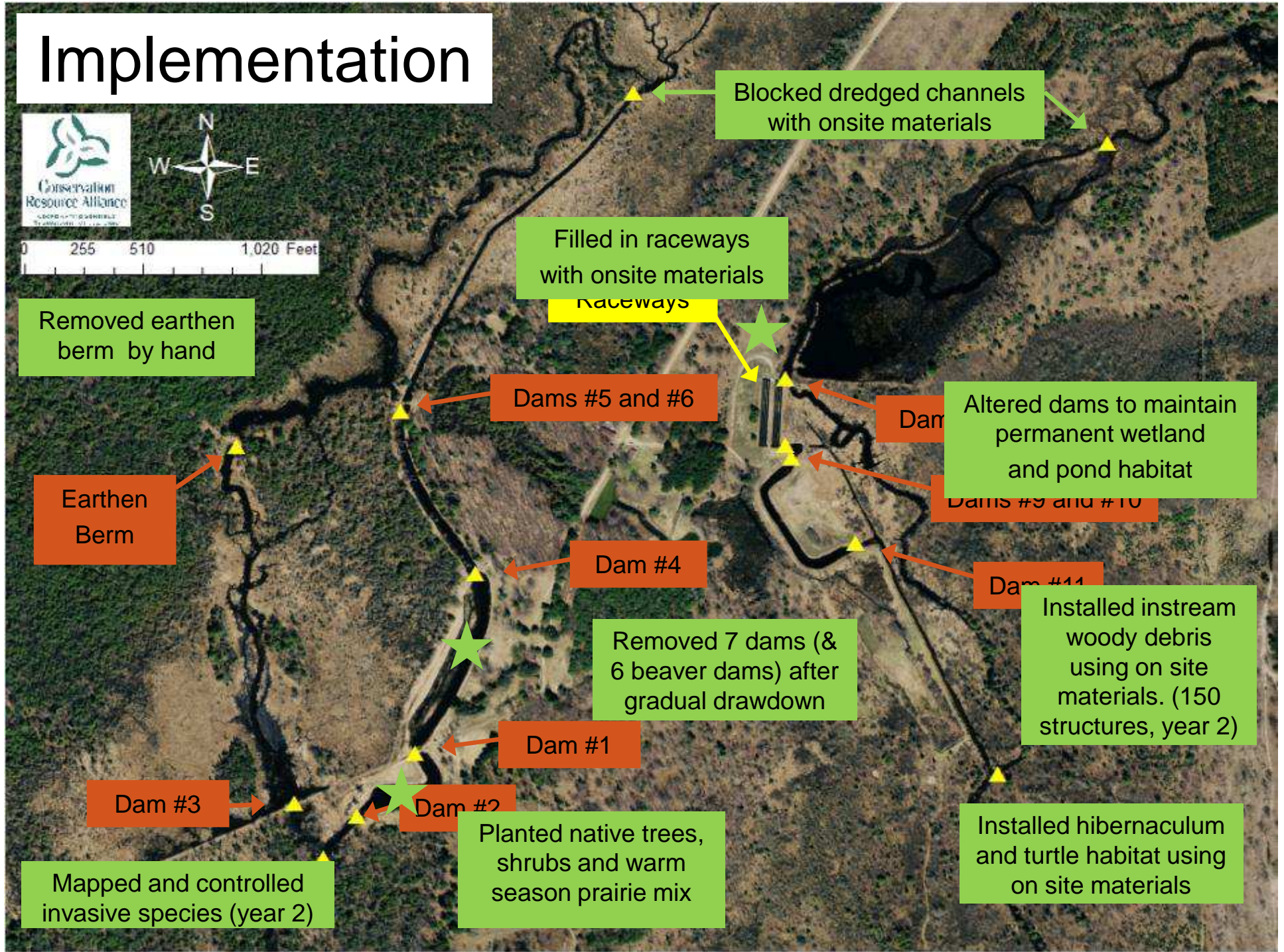
Dam #3

Dam #2

Mapped and controlled invasive species (year 2)

Planted native trees, shrubs and warm season prairie mix

Installed hibernaculum and turtle habitat using on site materials







Surveys & Monitoring



## Jordan River Watershed

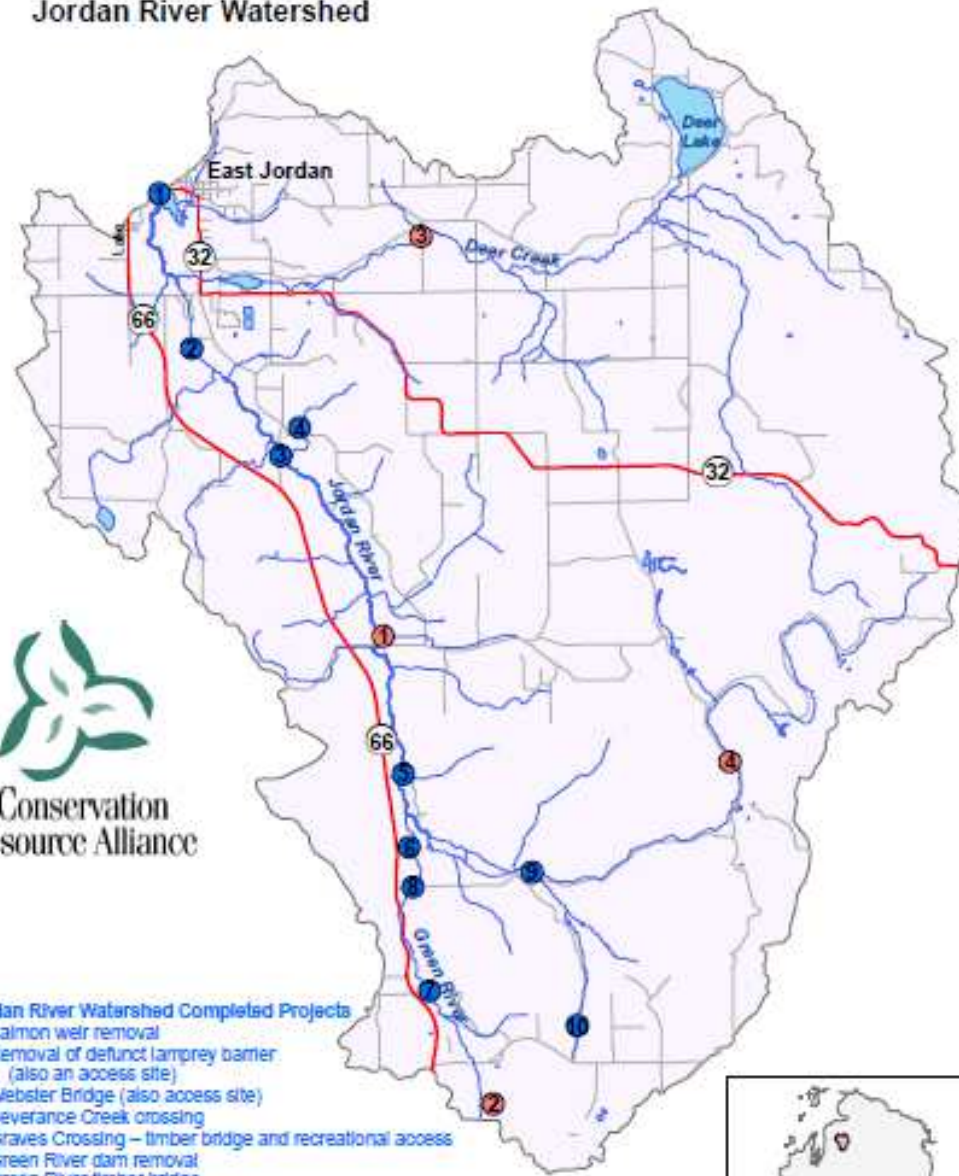


### Jordan River Watershed Completed Projects

1. Salmon weir removal
2. Removal of defunct lamprey barrier (also an access site)
3. Webster Bridge (also access site)
4. Severance Creek crossing
5. Graves Crossing – timber bridge and recreational access
6. Green River dam removal
7. Green River timber bridge
8. Green River Pinney timber bridge
9. Landside Creek crossing
10. Landside Creek tributary crossing

### Substantial Jordan River Watershed Restoration Needs

1. Future Chestnut Bridge and access site
2. Green River headwaters and Rair Road sites
3. Deer Creek and Fuller Road
4. Jordan River and Jordan River Road







Local Partners'  
Capacity



# The Pere Marquette and Pine River Road Crossings Improvement Project



Pere Marquette River Watershed

Pine River Watershed

## PROJECT SITES

1. Baker Creek & 56th Street
2. Sanborn Creek & Kings Highway
3. Sanborn Creek & Nelson Road
4. Baldwin River & 40th Street
5. Kinney Creek & Wingleton Road
6. Pere Marquette Tributary & Mac Road
7. Sweetwater Creek & Wingleton Road
8. Silver Creek & State Road

In 2009, the US Forest Service awarded the Conservation Resource Alliance (CRA) and the Lake County Road Commission (LCRC) grants totaling \$1,100,000 through the American Recovery and Reinvestment Act. CRA and LCRC provided an additional \$650,565 in match and grants, and completed 8 stream restoration projects. The focus was replacing and improving road/stream crossings in Lake County in the Pere Marquette and Pine River watersheds. Lake County is home to 200,000 acres of public-owned land, much of it in the Huron-Manistee National Forest. The Pere Marquette and Pine Rivers are both National Wild and Scenic Rivers, and State-designated Blue Ribbon Trout



**Readiness is  
Everything!**





# Challenges

*Copyright Mark Lindsay*





**Truly, funds administration is often  
the most difficult single area.....**

Reimbursement terms

Many different compliance terms, schedules,  
report formats, permit requirements

Eligible costs

Indirect costs

Matching funds

And all different!



# More Flexible \$= More Work Accomplished







Baiardi Family Foundation  
Bay Harbor Foundation  
Challenge Chapter of Trout Unlimited  
The Conservation Alliance  
Conservation Resource Alliance – River Care™  
DTE Energy Foundation  
Emmet County Road Commission  
Federation of Fly Fishers & Great Lakes Council  
FishAmerica Foundation  
Frey Foundation  
Harry A. & Margaret D. Towsley Foundation  
Henry E. & Consuelo S. Wenger Foundation  
Kalamazoo Valley Chapter of Trout Unlimited  
Krenn Bridge Company  
Little Traverse Bay Bands of Odawa Indians  
Michigan DNR  
Michigan Fly Fishing Club  
Miller Van Winkle Chapter of Trout Unlimited  
National Fish and Wildlife Foundation – Sustain Our  
Great Lakes  
Offield Family Foundation  
Oleson Foundation  
Pat & Gill Clements Foundation  
Petoskey-Harbor Springs Area Community  
Foundation  
Scientific Anglers  
U.S. Department of Agriculture – Conservation  
Innovation Grant  
U.S. Fish & Wildlife Service

## Project & Funding Partners



Mythical mindsets:  
This should not cost much/anything  
Non-profit = free  
Staff time = overhead/waste

**Project Management**





# Difficult to Fund

- Monitoring and Surveys
- Communications and PR
- Engineering and Geotechnical
- Project Planning, Landowner and Community Discussions
- Future Phases





# Legal and Insurance

- Water (and sediment) moves
- Protecting NGO partners, how to structure agreements
- Are there ways to offer blanket protection?





## Union Street Dam Built 1867

- Goal “full connectivity”
- Invasive sea lamprey & others
- 100% effective?
- Contingency, inspection or maintenance as part of dam removal



**Lowest Barriers**



# Lessons Learned in Project Management

- Qualifications Based Selection
- Emergency response planning
- Financial accountability/transparency
- Expect future restoration needs
- Contingency funding



# Thank You!

Conservation Resource Alliance

